

Math Skills Pre-Test Name: _____

Directions: This test gives examples of the types of math problems that you will have to solve in chemistry. Although some of the terms may not be familiar, the math concepts should be. Show your work, and put your answer on the line provided. Do your best!

1. There are 12 *googles* per *stemple*. If you have 14.5 *stemples*, how many *googles* do you have? _____

2. How many *seconds* are there in a 24-hour day? _____

3. If you can dissolve 5 pinches of salt in 1 cup of water, how much salt can you put in 3.5 cups of water? _____

4. The prefix *kilo* means 'one thousand'. How many *stars* in a *kilostar*? How many *kilostars* in a *star*? _____

5. The size of a hot-air balloon varies inversely with the outside air pressure. If the air pressure goes down by a factor of 2, what happens to the size of the balloon? _____

6. Solve the following problem for x : $\frac{54}{x} = 49$ _____

7. Solve the following problem for y : $L \times M = N \times y$, where $L = 15.3$
 $M = 250.5$, and $N = 0.354$ _____

8. When measuring mass, you know that the following is true:
1 kilogram = 1000 grams
2.2 pounds = 1 kilogram
How many grams are there in 156 pounds? _____

9. Write the following in scientific notation:
a. 0.000321 _____
b. 1,034,500,000 _____
c. 25,000 _____

10. A poof is defined as follows: poof = $-\log(x)$
a. What is poof if $x = 1 \times 10^{-4}$? _____
b. If poof = 6, what is x ? _____